A Project of

The Sacramento Valley

Water Management Agreement

OUWUA and TCCA Regional Water Use Efficiency Project

CALFED
BAY-DELTA
PROGRAM

PREPARED FOR

CALIFORNIA DEPARTMENT OF WATER RESOURCES
WATER USE EFFICIENCY PROGRAM

March 1, 2002

W022002007RDD_940

Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
A. Project Information Form

1. Applying for (select one):
   - ☐ (a) Prop 13 Urban Water Conservation Capital Outlay Grant
   - ☐ (b) Prop 13 Agricultural Water Conservation Capital Outlay Feasibility Study Grant
   - ☒ (c) DWR Water Use Efficiency Project
2. Principal applicant (Organization or affiliation): Orland Unit Water User's Association and Tehama-Colusa Canal Authority
3. Project Title: Regional Water Use Efficiency Project
4. Person authorized to sign and submit proposal:
   - Name, title: Rick Massa
   - Mailing address: 828 Eighth Street, Orland, CA
   - Telephone: 530/865-4126
   - Fax.: 530/865-7631
   - E-mail: ouwua@glenncounty.net
5. Contact person (if different):
   - Name, title.
   - Mailing address.
   - Telephone
   - Fax.
   - E-mail
6. Funds requested (dollar amount): $5 million
7. Applicant funds pledged (dollar amount):
8. Total project costs (dollar amount): Up to $5.0 million for short-term pilot projects
9. Estimated total quantifiable project benefits (dollar amount):

   Percentage of benefit to be accrued by applicant: Unknown until after Feasibility Study

Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
A. Project Information Form (continued)

Percentage of benefit to be accrued by CALFED others: Unknown until after Feasibility or Study

10. Estimated annual amount of water to be saved (acre-feet): 30,000 acre-feet per year (ac-ft/yr) to 100,000 ac-ft/yr

Estimated total amount of water to be saved (acre-feet): _____

Over in perpetuity _ years

Estimated benefits to be realized in terms of water quality, instream flow, other: Unknown until after Feasibility Study

11. Duration of project (month/year to month/year): Unknown until after Feasibility Study

12. State Assembly District where the project is to be conducted: District 2

13. State Senate District where the project is to be conducted: District 4

14. Congressional district(s) where the project is to be conducted: Congressional Districts 2 and 4

15. County where the project is to be conducted: Glenn County

16. Date most recent Urban Water Management Plan submitted to the Department of Water Resources: N/A

17. Type of applicant (select one):
Prop 13 Urban Grants and Prop 13 Agricultural Feasibility Study Grants:

- ☐ (a) city
- ☐ (b) county
- ☐ (c) city and county
- ☐ (d) joint power authority
- ☐ (e) other political subdivision of the State, including public water district
- ☒ (f) incorporated mutual water company

DWR WUE Projects: the above entities (a) through (f) or:

- ☐ (g) investor-owned utility
- ☐ (h) non-profit organization
- ☐ (i) tribe
- ☐ (j) university
- ☐ (k) state agency
- ☐ (l) federal agency

Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
A. Project Information Form (continued)

18. Project focus:

- ☒ (a) agricultural
- ☐ (b) urban

19. Project type (select one):
Prop 13 Urban Grant or Prop 13 Agricultural Feasibility Study Grant capital outlay project related to:

- ☐ (a) implementation of Urban Best Management Practices
- ☐ (b) implementation of Agricultural Efficient Water Management Practices
- ☐ (c) implementation of Quantifiable Objectives (include QO number(s))

  _____
- ☐ (d) other (specify)

  _____

DWR WUE Project related to:

- ☐ (e) implementation of Urban Best Management Practices
- ☒ (f) implementation of Agricultural Efficient Water Management Practices
- ☐ (g) implementation of Quantifiable Objectives (include QO number(s))
- ☐ (h) innovative projects (initial investigation of new technologies, methodologies, approaches, or institutional frameworks)
- ☐ (i) research or pilot projects
- ☐ (j) education or public information programs
- ☐ (k) other (specify)

  _____

20. Do the actions in this proposal involve physical changes in land use, or potential future changes in land use?

- ☐ (a) yes
- ☒ (b) no

If yes, the applicant must complete the CAL PSP Land Use Checklist found at http://calfed.water.ca.gov/environmental_docs.ht ml and submit it with the proposal.

Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
B. Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the proposal;

The individual signing the form is authorized to submit the proposal on behalf of the applicant; and

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant.

Signature	Name and title	Date

Proposal Part Two

Project Summary

The Orland Unit Water Users Association (OUWUA) is pursuing a cooperative project with TCCA to evaluate concepts for distribution system modernization, regional conveyance and supply facilities, and conjunctive management. The project location is shown on Figure 1. The project goal is to implement key infrastructure elements of a regional water management strategy to provide the following benefits: improve conveyance and water use efficiency within the OUWUA service area, improve water supply reliability and reduce seasonal surface-water diversions on the Sacramento River at Red Bluff Diversion Dam (RBDD), expand conjunctive management of groundwater and surface water resources in the OUWUA and nearby areas, improve fishery conditions on Stony Creek and the Sacramento River, and increase quantity of surface water at critical times of year to meet other beneficial needs in the Sacramento River basin.

Early phases of the project work are focusing on refining the project scope and concepts through feasibility studies. Other ongoing efforts include the ISI conjunctive management investigation program, which is expected to include conceptual development of conjunctive management alternatives in this area, as well as pilot projects to identify the most beneficial water use efficiency options. OUWUA has received $100,000 to begin evaluating the feasibility of modernizing their distribution system, and an additional $100,000 to begin conceptual evaluation of the regional supply and distribution facilities. This funding request is for pilot projects that may be identified during the feasibility studies.

The ultimate configuration of the facilities will depend on the results of various feasibility studies, including the CALFED Integrated Storage Investigation (ISI) program and integrate with other Sacramento Valley Water Management Agreement projects. The major components listed below should therefore be viewed as being relatively independent of each other, with a potential for implementing one or more without necessarily requiring all of the other components.

- Converting the OUWUA service area distribution system from an open-channel, rotation delivery irrigation system to a pressurized, piped distribution system.
- Removing OUWUA's North Diversion Dam on Stony Creek, which is presently a barrier to anadromous fish migration, and replacing this with either an improved surface diversion or a buried pipeline connection from the South Canal.
- Constructing a new pipeline or canal from the base of Black Butte Dam to the Tehama-Colusa (TC) Canal, routed through the southern portion of the OUWUA service area, and replacing the existing OUWUA South Canal. This would eliminate the need for the seasonal gravel diversion dam on Stony Creek at the TC Canal Constant Head Orifice (CHO).

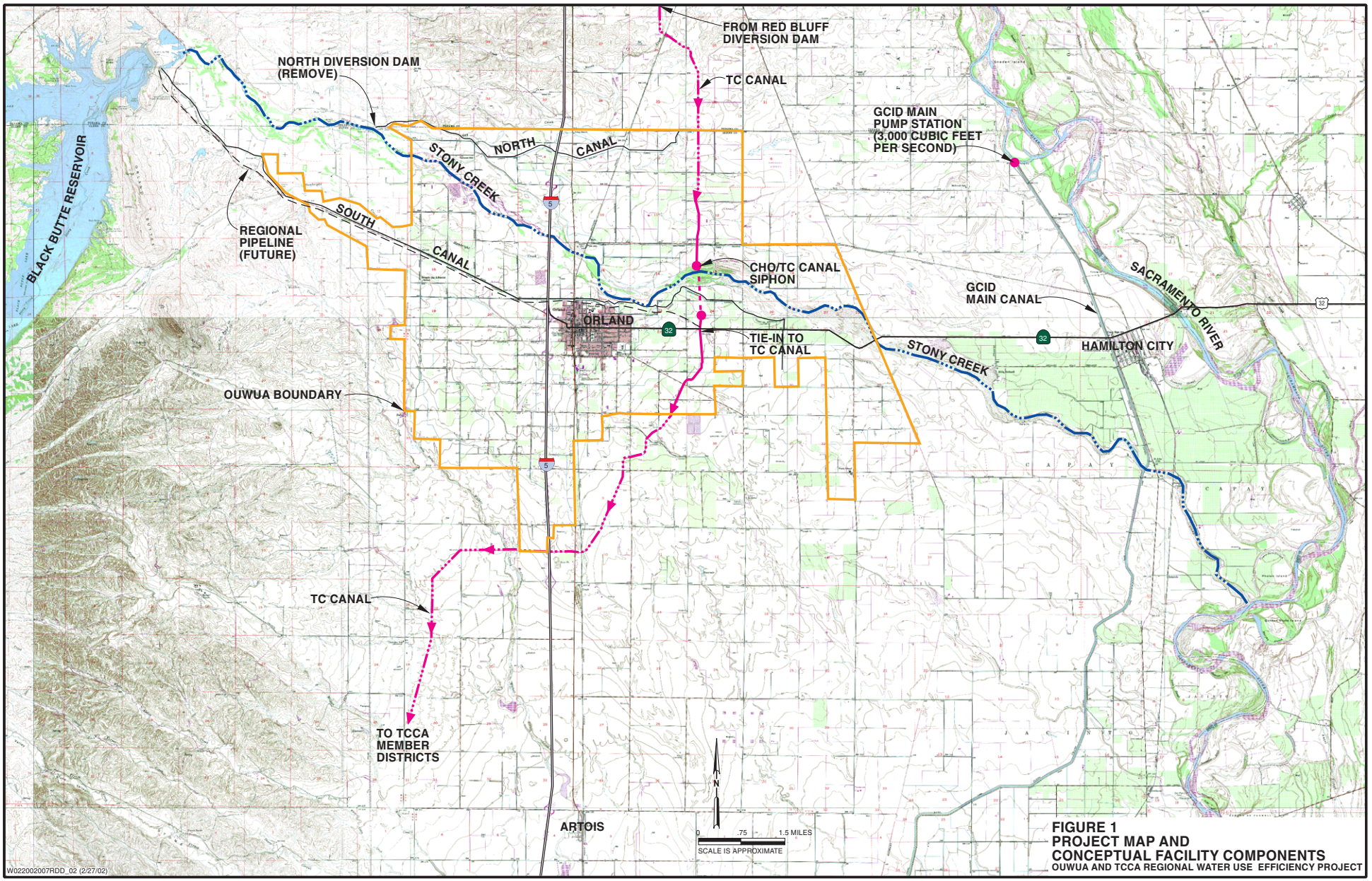


FIGURE 1
PROJECT MAP AND CONCEPTUAL FACILITY COMPONENTS
OUWUA AND TCCA REGIONAL WATER USE EFFICIENCY PROJECT

- Integrating conjunctive water management into the OUWUA distribution system and neighboring areas by establishing a network of groundwater wells and recharge basins adjacent to the OUWUA distribution system and nearby areas along the Stony Creek Fan. Diverting available seasonal excess flows from surface supplies into the recharge basins located within the project area would facilitate groundwater recharge back into the aquifer.
- Development of power generation potential using one or more low-head hydropower generating station(s) on the new pipeline(s). The power supply could be used to offset power consumption from local conjunctive management wells or other large power loads.

A. Scope of Work: Relevance and Importance

1. Nature, Scope, and Objectives

The short-term components of this project consist of feasibility studies, which would be followed by one or more small-scale pilot projects based on the study findings. Environmental study work would then follow or begin in parallel with the pilot projects. The feasibility study to investigate OUWUA distribution system efficiency improvements would cost approximately $140,000, and has recently been funded. A feasibility study for the regional pipeline and conjunctive management program is estimated to cost about $300,000, and has been partially funded. The costs for the pilot projects would depend on the findings of the feasibility studies. An approximate cost of $5 million is assumed for pilot projects at this time. It is anticipated that small-scale pilot projects would focus on modernizing a selected system lateral to assess the benefits and support implementation of the OUWUA system modernization. The pilot project could include installing a piped system to replace an existing open-channel lateral, and improved water measurement facilities. The pilot project(s) could be coordinated with other pilot projects such as the CALFED ISI-supported conjunctive management studies in the Stony Creek area. Depending on location and local conditions, such a project could potentially generate a small quantity of water available for in- or out-of-basin use by 2003.

2. Critical Local, Regional, Bay-Delta, State, or Federal Water Issues

The proposed project was identified in the Short-term Workplan developed as part of the Sacramento Valley Water Management Agreement (Agreement). This unprecedented agreement was developed by Sacramento Valley water users, export interests, the California Department of Water Resources (DWR), and U.S. Bureau of Reclamation (USBR) as an alternative to a potentially contentious process within Phase 8 of the State Water Resources Control Board (SWRCB) Bay-Delta Water Rights Hearings. The intent of the Agreement is to establish a framework to meet water supply, water quality, and environmental needs through a cooperative project development process. Each of the water system improvement projects evaluated under the Agreement, including the project described below, would provide benefits toward achieving at least one of four quantifiable objectives:

1. Provide flow to improve aquatic ecosystem conditions
2. Decrease nonproductive evapotranspiration (ET)

3. Provide long-term diversion flexibility to increase the water supply for beneficial uses
4. Reduce salinity to enhance and maintain beneficial uses of water

CALFED Quantifiable Objectives

Key elements of the Project include converting the OUWUA service area distribution system from an open-channel to a piped system, removing the OUWUA's North Diversion Dam on Stony Creek, installing a new pipeline from the base of Black Butte Dam to the TCCA Canal, which would replace the OUWUA's South Canal, and a network of groundwater wells and recharge basins adjacent to the OUWUA distribution system and the TCCA Canal in the area of the Stony Creek fan where the TCCA Canal passes through the OUWUA service area. The Project will partially address CALFED Quantifiable Objectives 13 and 18 (Subregion 2) and 20, 25, and 27 (Subregion 3).

Key Stakeholders

The conceptual scale of the project necessarily involves a wide range of stakeholders whose interests may be impacted by the project. Table 1 summarizes the key stakeholders and the range of issues that each would be expected to have interests and concerns regarding.

TABLE 1
Stakeholder Roles and Issues
Orland Unit Water Users' Association and Tehama-Colusa Canal Authority Regional Water Use Efficiency Project

Stakeholder	Role/Concerns/Issues
OUWUA	• Project proponent and direct beneficiary • Need to upgrade system, improve operations
Local TCCA member districts	• Project proponent and direct beneficiary • Need to improve water supply reliability
GCID	• Significant local interest in project impacts on surface- and groundwater supply and management • Likely to be participant in any regional project that develops from this proposal or others
Glenn County	• Groundwater management objectives, compliance with county's Groundwater Management Ordinance (No. 1115)
Tehama County water interests	• Neighboring county to north; concerns with impacts to groundwater
Local landowners	• Groundwater level changes • Project facility construction and long-term impacts
USBR, DWR	• Orland Unit and TCCA facility operations, water rights • Integration with other regional management concepts such as off-stream storage
Environmental interest groups	• In-stream flow impacts, fishery impacts, land use

B. Scope of Work: Technical/Scientific Merit, Feasibility, Monitoring, and Assessment

1. Methods, Procedures, and Facilities

A critical local issue for OUWUA is the relatively high conveyance losses and low on-farm efficiency in the service area because of the age of the open-channel canals and laterals and the use of a rotation-based irrigation delivery schedule. The conveyance and irrigation losses result in a need for increased diversion and use of Stony Creek watershed supply, and reduced ability to hold back supplies in the upper watershed reservoirs for managed use elsewhere. OUWUA has two reservoirs in the upper Stony Creek watershed with a combined storage capacity of approximately 100,000 ac-ft, or about 25 percent of the average annual watershed runoff.

Most of the existing distribution system was constructed between 1900 and 1920 and consists of open-channel canals and laterals. The system includes 17 miles of canals and 139 miles of laterals. Much of the system was lined with concrete because of the relatively steep gradients and resulting flow velocity. The existing system is in a degraded state with maintenance and repair costs increasing each year and relatively high operational spills and other losses. Deliveries are made on a "rotation" basis, which provides each portion of the service area with water delivery for a fixed period (e.g., 24 hours) at scheduled daily intervals. The combination of rotation delivery and open-channel delivery hampers each irrigator's ability to improve on-farm irrigation efficiency through common methods such as more exact matching of actual crop water need and applied water depth and more efficient and uniform application methods such as sprinklers and drip irrigation.

The proposed distribution system modernization would convert a significant portion of the system to a buried, pressurized pipe delivery system. This would essentially eliminate conveyance losses within the piped portion of the service area. The system would also provide "on-demand" irrigation scheduling, allowing each grower to more closely match the timing and depth of applied water indicated by the specific crop, soil type, and other local factors.

The feasibility study will include an evaluation of existing and potential future conveyance and on-farm efficiency to estimate the conservation potential of the project. A very rough estimate of the potential reduction in diversions can be made from the current irrigated acreage and diversion quantities. Annual diversions are approximately 100,000 ac-ft, resulting in an estimated average per-acre supply of 5 ac-ft/ac. Average "project-wide" efficiency can be estimated as the ratio of consumptive use to total diversions. Using an average crop evapotranspiration of applied water (ETAW) of approximately 2.4 feet, the "system-wide" efficiency is approximately (2.4 feet/5.0 feet), or about 48 percent. Assuming approximately 10 percent conveyance losses mainly from operational spills, the resulting average "on-farm" efficiency is approximately 53 percent, which is common for the flood irrigation methods used currently.

Using this approximate baseline for existing conditions, a piped conveyance system that reduces conveyance losses to essentially 0 percent and makes possible on-farm efficiency of about 70 percent through use of improved application methods would result in required future diversions of approximately 68,000 ac-ft. This reduction in the diversion requirement

would then make it possible to reallocate up to 30,000 ac-ft on average each irrigation season. The 30,000 ac-ft of seasonal supply could be stored in the upper reservoirs or released for other targeted beneficial uses. The ability to reallocate this supply would in turn be supported by the other components of the project as follows.

3. Task List and Schedule

Early phases of the project work are focusing on refining the project scope and concepts through feasibility studies. Other ongoing efforts include the ISI conjunctive management investigation program, which is expected to include conceptual development of conjunctive management alternatives in this area, as well as pilot projects to identify the most beneficial water use efficiency options. OUWUA has received $100,000 to begin evaluating the feasibility of modernizing their distribution system, and an additional $100,000 to begin conceptual evaluation of the regional supply and distribution facilities. This funding request is for pilot projects that may be identified during the feasibility studies.

The following major steps would be required to implement the entire project. Each step depends on successful completion of the previous supporting steps, and findings that support further actions. Figure 2 shows an assumed implementation schedule based on typical time requirements for each step in a project of this scale. The normal-font text below indicates the portion of the overall project for which funds are being sought during this grant solicitation cycle.

1.1 Feasibility studies and conceptual design—This step has recently started, and will develop the specific project components, general features, operating concepts, and potential benefits. This step will determine the basic engineering and economic feasibility of the project.

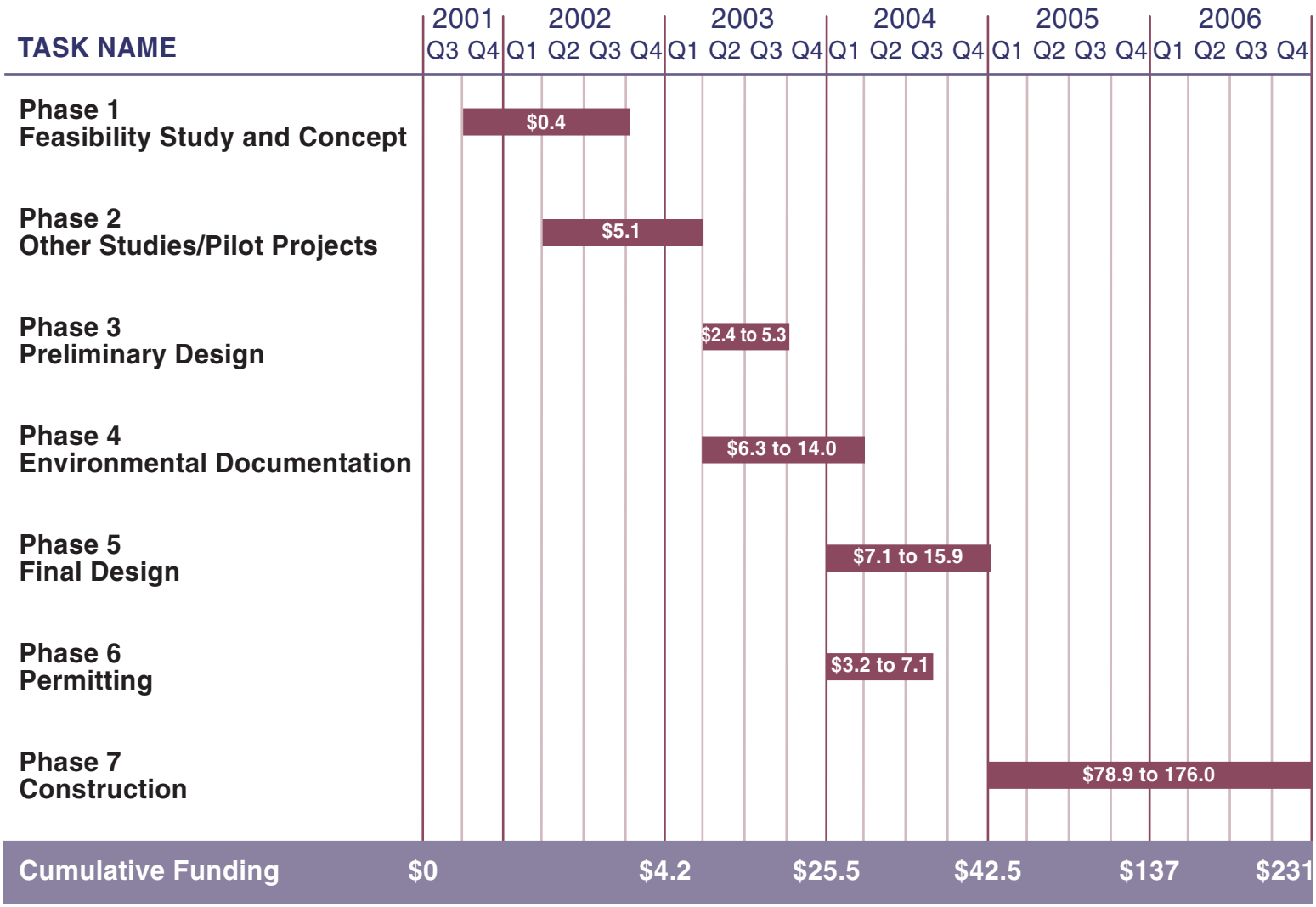
2.1 Other studies (groundwater modeling)—These supporting studies would provide more detailed evaluation of specific aspects of the project, such as groundwater impacts and changes in "on-farm efficiency" from improvements to the OUWUA system.

2.2 Pilot projects—This is the portion of the project for which we are currently seeking funding. The studies may support the implementation of pilot projects such as piping specific local portions of the OUWUA system. The pilot projects would provide critical information to support final design and confirm the viability of specific project operating objectives.

3.1 Preliminary design—The preliminary design would involve engineering design of the major facilities to a fairly detailed level including sizes, locations, footprints, and other. This information would support key implementation steps such as right-of-way acquisition, soils testing, mapping, and permitting and environmental studies.

4.1 Environmental assessment/environmental impact report (EA/EIR)—The EA/EIR would derive from the preliminary design and would confirm the potential impacts and required mitigation, if any, for the project.

5.1 Final design—Final design would proceed following the EA/EIR work, focusing on the preferred alternative. This would involve producing engineering drawings, specifications, and other final contract documents suitable to bid and construct the project facilities.



NOTE: ALL DOLLAR FIGURES ARE IN MILLIONS

FIGURE 2
PRELIMINARY IMPLEMENTATION SCHEDULE
OUWUA AND TCCA REGIONAL WATER USE EFFICIENCY PROJECT

W022002007RDD_18 (2/28/02)

6.1 Permitting—The various permits would be obtained using the final design as the basis for permitting requirements.

7.1 Construction—Construction would potentially be phased over several years, given the size and complexity of the project.

Operation and Monitoring—Long-term operations and monitoring of the project would begin following completion of construction.

3. Monitoring and Assessment

Operation and Monitoring—Long-term operations and monitoring of the project would begin following completion of construction.

Progress toward the QOs will be made throughout the project. As flow, delivery, and system loss data are gathered, they will be made available to DWR and the Bureau, as well as other regional water purveyors. This information will be available at the OUWUA Project office.

C. Qualifications

1. Project Manager

OUWUA's Project Manager is Rick Massa. His resume is attached to this application.

2. External Cooperators

It is not anticipated that the project will require additional assistance from any other entity or agency.

D. Benefits and Costs

1. Budget Justification

The cost opinions shown, and any resulting conclusions on project financial or economic feasibility or funding requirements, have been prepared for guidance in project evaluation from the information available at the time of the estimate. It is normally expected that cost opinions of this type, an order-of-magnitude cost opinion, would be accurate within +50 to –30 percent. Project costs were developed at a conceptual level only, using data such as cost curves and comparisons with bid tabs and vendor quotes for similar projects. The costs were not based on detailed engineering design, site investigations, and other supporting information that would be required during subsequent evaluation efforts.

The final costs of the project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors. As a result, the final project costs will vary from the opinions presented here. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs must be carefully reviewed prior to making specific financial decisions or establishing project budgets to help ensure proper project evaluation and adequate funding.

Conceptual-level Capital Costs

Costs for the actual pilot project will be developed after the feasibility studies are complete and feasible alternatives are identified. The current funding request of $5 million was calculated using an anticipated minimum of modernizing the canals for 1,000 acres.

Future phases of the project would include detailed cost estimates for new facilities. At this time, an extremely rough cost opinion can be made for general comparative purposes only. Each major project component can be considered somewhat independently from a cost perspective, so that the actual cost of the implemented project could vary widely depending on the scope and layout of the facilities actually constructed. Tables 2 and 3, present general cost information for each component.

TABLE 2
Planning-level Project Costs for OUWUA District Modernization
Orland Unit Water Users' Association and Tehama-Colusa Canal Authority Regional Water Use Efficiency Project

	Quantity	Units	Unit Price ($)	Total Cost ($ million)	Assumptions
OUWUA Modernization	15,000	Acres	3,600	54	Piped distribution system for 75 percent of service area
North Canal Supply Pipeline	14,000	Linear feet	462	6.5	100-cfs, 66-inch pipeline, gravity feed from Highline Canal
North Dam Removal on Stony Creek	1	Lump sum	0.15	0.15	Demolition, removal, restoration
			Subtotal	60.7	
			Contingencies and Allowances (30%)	18.2	
			Total Construction Costs	78.9	
			Engineering, Environmental, Construction Management and Admin. (25%)	19.7	
			Total Project Cost	**98.6**	

TABLE 3
Planning-level Project Costs for Regional Pipeline
Orland Unit Water Users' Association and Tehama-Colusa Canal Authority Regional Water Use Efficiency Project

	Quantity	Units	Unit Price ($)	Total Cost ($ million)	Assumptions
Regional Pipeline Black Butte Dam to TC Canal	84,000	Linear feet	672	57	Parallel 96-inch pipelines, approx. 8 miles each
			Subtotal	57	
			Contingencies and Allowances (30%)	17.1	
			Total Construction Costs	74.1	
			Engineering, Environmental, Construction Management and Admin. (25%)	18.5	
			Total Project Cost	**92.6**	

2. Cost Sharing

As stated in the 2002 PSP, cost sharing will be determined according to percentage of benefit realized by each party. Benefits gained will be determined once the feasibility study is complete and the project is more clearly defined. The majority of the 30,000 to 100,000 ac-ft of water saved per year could be made available to help achieve CALFED objects.

3. Potential Benefits to be Realized and Information to be Gained

The place and type of use for the project yield would depend on the following factors: the actual hydrologic conditions for each year (wet, normal, dry), the final configuration of the project facilities, project participants, operating agreements, and targeted benefits. The types of targeted water supply beneficiaries are assumed to include the following:

- **OUWUA and other local water users—**The proposed project would assist in meeting local irrigation supply requirements in OUWUA and other local water users with unmet supply requirements. In normal and wet years this supply may come primarily from surface water sources, with some groundwater use as required in drier years.

- **Stony Creek and Sacramento River—**In-stream flows and other environmental benefits in support of long-term Stony Creek and Sacramento River management objectives could potentially be met with this regional project. This increased supply to in-stream flows would come from a combination of flexibility on the use of RBDD to reduce early Spring diversions, seasonal use of groundwater to minimize the need for surface water supplies, and increased efficiency within the irrigation districts.

- **Sacramento-San Joaquin Delta and other Sacramento Basin users—**Other Sacramento Basin water supply needs, including increased net seasonal inflows to the Sacramento-San Joaquin Delta, could be met with the proposed project. This supply would likely come primarily from dry-year use of groundwater in the project area, with reduced surface water diversions providing net increases in in-stream flows to the Delta.

The potential water supply benefits of the proposed project derive from four primary sources:

1. Up to 30,000 ac-ft/yr of conserved water in the OUWUA service area from modernization of the distribution system and improved on-farm irrigation methods.

2. Up to 50,000 ac-ft/yr of conjunctive groundwater management, with extraction primarily in years of surface water supply reductions. This groundwater use would require allocation of sufficient supplies in non-pumping years as required to maintain long-term groundwater levels within acceptable levels based on management targets.

3. An undetermined quantity of annually and seasonally excess Stony Creek surface water yield, as determined by the difference between the average annul runoff of 410,000 ac-ft that occurs mostly in winter and early spring and existing uses (100,000 ac-ft/yr OUWUA; 38,000 CVP supply to TCCA; 16,000 ac-ft for environmental and in-stream flows; other miscellaneous diversions). Depending on the timing of the runoff, this quantity could be as high as 200,000 ac-ft/yr in wet years. This supply could be used for a combination of direct irrigation use, managed recharge of the groundwater basin, and conveyance to a future Sites Reservoir.

4. An undetermined quantity of Sacramento River water diverted during excess winter season flows and conveyed down the TC Canal for recharge of groundwater and later extraction during dry years.

Water Management Benefits

This project may potentially provide water management benefits primarily by increasing conveyance and on-farm efficiency, providing flexibility in the timing of surface water diversions on both the Sacramento River and Stony Creek, increasing the ability to store and target releases of surface water supplies, and providing increased flexibility and reliability through management of both surface- and groundwater supplies. The conjunctive management of the groundwater and surface water supplies may also help to minimize impacts from increased groundwater pumping such as subsidence and long-term changes in groundwater levels.

Water Quality Benefits

The water quality benefits of the project are anticipated to derive largely from the increased seasonal in-stream flows, which generally would be expected to improve both temperature and constituent quality parameters. These benefits would need to be evaluated and modeled on a regional basis to determine both the qualitative and quantitative impacts on water quality in Stony Creek, the Sacramento River, and the Delta.

Power Generation

Development of power generation potential using one or more low-head hydropower generating station(s) on the new pipeline(s). The power supply could be used to offset power consumption from local conjunctive management wells or other large power loads.

4. Benefit Realized and Information Gained versus Costs

Once the feasibility study is complete and benefits and costs are quantified, this comparison can be made.

E. Outreach, Community Involvement, and Acceptance

The project is consistent with the Sacramento Valley Water Management Agreement among the Sacramento Valley water interests, the California Department of Water Resources, the U.S. Bureau of Reclamation, and export water users. The ongoing process that resulted in the Agreement has a strong public outreach component to inform agencies, environmental and other interests, and the public on the Agreement. Numerous presentations have been made to the CALFED Management Team and associated staff, county supervisors in all affected counties, water districts and their customers, and other organizations and agencies, including the State Water Resources Control Board, Trust for Public Lands, The Bay Institute, U.S. Fish and Wildlife Service, Natural Heritage Institute, The Nature Conservancy, and the public. Additional meetings will occur as the planning and implementation process proceeds. No individual or organization has expressed formal opposition to the Agreement or the projects to be undertaken under the Agreement. The projects, including the one described

herein, have been summarized in a published "Short-term Workplan" prepared in conjunction with the Agreement.

Additionally, if they prove to be feasible and are selected for implementation, this and all other projects associated with the Agreement will be subject to CEQA and NEPA documentation. The CEQA and NEPA statutes and implementing guidelines ensure that the public and all affected agencies will be fully informed of the project and its effects and receive meaningful opportunities to provide input and review and comment on the project through the CEQA and NEPA public review process.

The planning effort associated with the Agreement provides a formal framework for disseminating project information. Feedback on benefits achieved through the management and conservation measures recommended in the Agreement will be made available to all Sacramento Valley water contractors, Reclamation, and DWR through the planning partnership. The participants are aware of the need to share this information to ensure successful water supply management throughout the Sacramento Valley.

Local Outreach Efforts

The project will allow growers to utilize new irrigation technologies. OUWUA will coordinate efforts with CalPoly's Irrigation Training and Research Center (ITRC) Center to develop training seminars and programs to improve on-farm water use efficiency. OUWUA has worked with ITRC in the past. Although this phase of the Project does not directly provide employment or capacity building, it does support the ultimate goal of more efficient management of agricultural water supplies. This, in turn, will potentially make more water available for beneficial uses. Glenn County typically has a higher unemployment rate and lower average per capita income and median family income than the rest of the state. Agriculture is a major employer and a more reliable, better managed water supply will help improve the region's economy by accommodating growth in industry and agriculture, including growth in employment opportunities in all economic sectors.

The proposed project will provide the capability to more flexibly and efficiently manage the amount and timing of diversions. It will reduce diversions, thereby increasing instream flows, and also will reduce spill, ET, and seepage losses. OUWUA will include in its newsletters to area growers informing them of the project, its goals, and the status of the alternatives analysis. As described in Subtask 2.1 district operations staff and local growers will meet to discuss and evaluate a range of criteria for future level of service requirements with a fully piped or partially piped distribution system.